

be operated indoors. Operation outdoors is in violation of 47 U.S.C. 301 and could subject the operator to serious legal penalties.”

(b) Operation under the provisions of this section is not permitted on aircraft or satellites.

(c) Within the 92–95 GHz bands, the emission levels shall not exceed the following:

(1) The average power density of any emission, measured during the transmit interval, shall not exceed 9 uW/sq. cm, as measured at 3 meters from the radiating structure, and the peak power density of any emission shall not exceed 18 uW/sq. cm, as measured 3 meters from the radiating structure.

(2) Peak power density shall be measured with an RF detector that has a detection bandwidth that encompasses the band being used and has a video bandwidth of at least 10 MHz, or uses an equivalent measurement method.

(3) The average emission limits shall be calculated based on the measured peak levels, over the actual time period during which transmission occurs.

(d) Limits on spurious emissions:

(1) The power density of any emissions outside the band being used shall consist solely of spurious emissions.

(2) Radiated emissions below 40 GHz shall not exceed the general limits in § 15.209.

(3) Between 40 GHz and 200 GHz, the level of these emissions shall not exceed 90 pW/cm<sup>2</sup> at a distance of 3 meters.

(4) The levels of the spurious emissions shall not exceed the level of the fundamental emission.

(e) The total peak transmitter output power shall not exceed 500 mW.

(f) Fundamental emissions must be contained within the frequency bands specified in this section during all conditions of operation. Equipment is presumed to operate over the temperature range –20 to +50 degrees Celsius with an input voltage variation of 85% to 115% of rated input voltage, unless justification is presented to demonstrate otherwise.

(g) Regardless of the maximum EIRP and maximum power density levels permitted under this section, devices operating under the provisions of this section are subject to the radio-

frequency radiation exposure requirements specified in 47 CFR 1.1307(b), 2.1091, and 2.1093, as appropriate. Applications for equipment authorization of devices operating under this section must contain a statement confirming compliance with these requirements for both fundamental emissions and unwanted emissions. Technical information showing the basis for this statement must be submitted to the Commission upon request.

(h) Any transmitter that has received the necessary FCC equipment authorization under the rules of this chapter may be mounted in a group installation for simultaneous operation with one or more other transmitter(s) that have received the necessary FCC equipment authorization, without any additional equipment authorization. However, no transmitter operating under the provisions of this section may be equipped with external phase-locking inputs that permit beam-forming arrays to be realized.

[69 FR 3265, Jan. 23, 2004]

## Subpart D—Unlicensed Personal Communications Service Devices

SOURCE: 58 FR 59180, Nov. 8, 1993, unless otherwise noted.

### § 15.301 Scope.

This subpart sets out the regulations for unlicensed personal communications services (PCS) devices operating in the 1910–1930 MHz and 2390–2400 MHz frequency bands.

[60 FR 13073, Mar. 10, 1995]

### § 15.303 Definitions.

(a) *Asynchronous devices.* Devices that transmit RF energy at irregular time intervals, as typified by local area network data systems.

(b) *Coordinatable PCS device.* PCS devices whose geographical area of operation is sufficiently controlled either by necessity of operation with a fixed infrastructure or by disabling mechanisms to allow adequate coordination of their locations relative to incumbent fixed microwave facilities.

(c) *Emission bandwidth.* For purposes of this subpart the emission bandwidth shall be determined by measuring the

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width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, that are 26 dB down relative to the maximum level of the modulated carrier. Compliance with the emissions limits is based on the use of measurement instrumentation employing a peak detector function with an instrument resolutions bandwidth approximately equal to 1.0 percent of the emission bandwidth of the device under measurement.

(d) *Isochronous devices.* Devices that transmit at a regular interval, typified by time-division voice systems.

(e) *Noncoordinatable PCS device.* A PCS device that is capable of randomly roaming and operating in geographic areas containing incumbent microwave facilities such that operation of the PCS device will potentially cause harmful interference to the incumbent microwave facilities.

(f) *Peak transmit power.* The peak power output as measured over an interval of time equal to the frame rate or transmission burst of the device under all conditions of modulation. Usually this parameter is measured as a conducted emission by direct connection of a calibrated test instrument to the equipment under test. If the device cannot be connected directly, alternative techniques acceptable to the Commission may be used.

(g) *Personal Communications Services (PCS) Devices [Unlicensed].* Intentional radiators operating in the frequency bands 1910–1930 MHz and 2390–2400 MHz that provide a wide array of mobile and ancillary fixed communication services to individuals and businesses.

(h) *Spectrum window.* An amount of spectrum equal to the intended emission bandwidth in which operation is desired.

(i) *Sub-band.* For purposes of this subpart the term sub-band refers to the spectrum allocated for isochronous or asynchronous transmission.

(j) *Thermal noise power.* The noise power in watts defined by the formula  $N=kTB$  where  $N$  is the noise power in watts,  $K$  is Boltzmann's constant,  $T$  is the absolute temperature in degrees Kelvin (e.g., 295 °K) and  $B$  is the emission bandwidth of the device in hertz.

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(k) *Time window.* An interval of time in which transmission is desired.

[58 FR 59180, Nov. 8, 1993, as amended at 59 FR 32852, June 24, 1994; 60 FR 13073, Mar. 10, 1995]

### § 15.305 Equipment authorization requirement.

PCS devices operating under this subpart shall be certified by the Commission under the procedures in subpart J of part 2 of this chapter before marketing. The application for certification must contain sufficient information to demonstrate compliance with the requirements of this subpart.

### § 15.307 Coordination with fixed microwave service.

(a) UTAM, Inc. is designated to coordinate and manage the transition of the 1910–1930 MHz band from the Private Operational-Fixed Microwave Service (OFS) operating under part 101 of this chapter to unlicensed PCS operations.

(b) Each application for certification of equipment operating under the provisions of this subpart must be accompanied by an affidavit from UTAM, Inc. certifying that the applicant is a participating member of UTAM, Inc. In the event a grantee fails to fulfill the obligations attendant to participation in UTAM, Inc., the Commission may invoke administrative sanctions as necessary to preclude continued marketing and installation of devices covered by the grant of certification, including but not limited to revoking certification.

(c) An application for certification of a PCS device that is deemed by UTAM, Inc. to be noncoordinatable will not be accepted until the Commission announces that a need for coordination no longer exists.

(d) A coordinatable PCS device is required to incorporate means that ensure that it cannot be activated until its location has been coordinated by UTAM, Inc. The application for certification shall contain an explanation of all measures taken to prevent unauthorized operation. This explanation shall include all procedural safeguards, such as the mandatory use of licensed technicians to install the equipment,